

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1 1. (currently amended) A method for the elimination of
2 spurious signal components ~~(SS)~~ in an input signal—~~(ES)~~, said
3 method ~~consisting of~~ comprising the steps of:

4 - the characterization, in a signal analysis phase ~~(I)~~,
5 of signal components of the spurious signal
6 components ~~(SS)~~ and of an information signal ~~(NS)~~
7 contained in the input signal ~~(ES)~~, and
8 - the determination or generation, in a signal processing
9 phase ~~(II)~~, of the information signal ~~(NS)~~ or an
10 estimated information signal ~~(NS')~~ on the basis of
11 the characterization obtained in the signal analysis
12 phase ~~(I)~~, wherein

13 said characterization of the signal components ~~(SS, NS)~~
14 ~~being~~ are performed under utilization at least of
15 auditory-based features ~~(M1 to Mj)~~ determined in the
16 signal analysis phase, employing a primitive-
17 grouping method.

1 2. (currently amended) The method as in claim 1, wherein
2 at least one of the following auditory features ~~(M1 to Mj)~~ are
3 used for the characterization of the signal components ~~(NS,~~
4 ~~SS)~~: loudness, spectral profile, harmonic structure, common
5 build-up and decay times, coherent amplitude and frequency
6 modulation, coherent phases, interaural runtime and level
7 differences.

1 3. (currently amended) The method as in claim 1, wherein
2 the auditory features ~~(M1 to Mj)~~ are determined in a plurality
3 of different frequency bands that are different from each
4 other.

1 4. (canceled).

1 5. (currently amended) The method as in claim 1, wherein
2 the characterization of the signal components ~~(SS, NS)~~ is
3 performed by evaluating the features ~~(M₁ to M_j)~~ determined in
4 the signal analysis phase ~~(I)~~, employing a scheme-based
5 grouping technique.

1 6. (currently amended) The method as in claim 5, wherein
2 a hypothesis is established or specified on the nature of the
3 signal component ~~(SS, NS)~~ and is taken into account in the
4 grouping of the identified features ~~(M₁ to M_j)~~.

1 7. (currently amended) The method as in claim 5 or 6,
2 wherein for the characterization of the signal components ~~(NS,~~
3 ~~SS)~~, at least the auditory features~~(M₁ to M_j)~~ are grouped
4 along the principles of a gestalt theory.

1 8. (currently amended) The method as in claim 1, wherein
2 the signal components identified as spurious noise components
3 ~~(SS)~~ are suppressed and/or the signal components identified as
4 information signals ~~(NS)~~ or estimated information signals
5 ~~(NS')~~ are amplified.

1 9. (currently amended) The method as in claim 1, wherein
2 the information signal ~~(NS)~~ or an estimated information signal
3 ~~(NS')~~ is synthesized in the signal processing phase ~~(II)~~ on
4 the basis of the features ~~(M₁ to M_j)~~ detected in the signal
5 analysis phase ~~(I)~~.

1 10. (currently amended) The method as in claim 1, wherein
2 with the aid of an analysis of the harmonic structure in the
3 signal analysis phase ~~(I)~~, different base frequencies of the

4 signal component of the information signal ~~(NS)~~ or of the
5 estimated information signal ~~(NS')~~ are extracted and, with the
6 aid especially of a loudness or LPC analysis, spectral levels
7 of harmonics of these signal components are defined, and on
8 the basis of the spectral levels and the harmonics an
9 information signal for tonal speech components is synthesized.

1 11. (currently amended) The method as in claim 1, wherein
2 with the aid of an analysis of the harmonic structure in the
3 signal analysis phase ~~(I)~~, nontonal signal components of the
4 information signal ~~(NS)~~ or of the estimated information signal
5 ~~(NS')~~ are extracted and, with the aid especially of a loudness
6 or LPC analysis, spectral levels of these signal components
7 are defined, and with the aid of a noise generator an
8 information signal for nontonal speech components is
9 synthesized.

1 12. (currently amended) The method as in claim 10 or 11,
2 wherein the information signal ~~(NS)~~ and/or the estimated
3 information signal ~~(NS')~~ is amplified.

1 13. (previously presented) Application of the method
2 according to claim 1 for operating a hearing aid.

1 14. (previously presented) Hearing aid operating by the
2 method according to claim 1.

1 15. (new) A method for the elimination of spurious signal
2 components in an input signal, said method comprising the
3 steps of:

4 - the characterization, in a signal analysis phase , of
5 signal components of the spurious signal components
6 and of an information signal contained in the input
7 signal , and

8 - the determination or generation, in a signal processing
9 phase , of the information signal or an estimated
10 information signal on the basis of the
11 characterization obtained in the signal analysis
12 phase , wherein
13 said characterization of the signal components is
14 performed under utilization of at least auditory-
15 based features determined in the signal analysis
16 phase by employing a scheme-based grouping
17 technique.

1 16. (new) The method as in claim 15, wherein the
2 characterization of the signal components is performed by
3 evaluating the auditory-based features determined in the
4 signal analysis phase, employing a primitive-grouping method.

1 17. (new) The method as in claim 16, wherein a hypothesis
2 is established or specified on the nature of the signal
3 component and is taken into account in the grouping of the
4 identified auditory-based features.

1 18. (new) The method as in claim 16 or 17, wherein for
2 the characterization of the signal components, at least the
3 auditory-based features are grouped along the principles of a
4 gestalt theory.

1 19. (new) The method as in claim 15, wherein the signal
2 components identified as spurious noise components are
3 suppressed and/or the signal components identified as
4 information signals or estimated information signals are
5 amplified.

1 20. (new) The method as in claim 15, wherein the
2 information signal or an estimated information signal is

3 synthesized in the signal processing phase on the basis of the
4 features detected in the signal analysis phase.

1 21. (new) The method as in claim 15, wherein with the
2 aid of an analysis of the harmonic structure in the signal
3 analysis phase, different base frequencies of the signal
4 component of the information signal or of the estimated
5 information signal are extracted and, with the aid especially
6 of a loudness or LPC analysis, spectral levels of harmonics of
7 these signal components are defined, and on the basis of the
8 spectral levels and the harmonics an information signal for
9 tonal speech components is synthesized.

C 1 22. (new) The method as in claim 15, wherein with the
2 aid of an analysis of the harmonic structure in the signal
3 analysis phase, nontonal signal components of the information
4 signal or of the estimated information signal are extracted
5 and, with the aid especially of a loudness or LPC analysis,
6 spectral levels of these signal components are defined, and
7 with the aid of a noise generator an information signal for
8 nontonal speech components is synthesized.

1 23. (new) The method as in claim 21 or 22, wherein the
2 information signal and/or the estimated information signal is
3 amplified.

1 24. (new) The method as in claim 15, wherein at least one
2 of the following auditory features are used for the
3 characterization of the signal components: loudness, spectral
4 profile, harmonic structure, common build-up and decay times,
5 coherent amplitude and frequency modulation, coherent phases,
6 interaural runtime and level differences.

1 25. (new) The method as in claim 15, wherein the auditory

2 features are determined in a plurality of frequency bands
3 that are different from each other.

1 26. (new) An application of the method according to
2 claim 15 for operating a hearing aid.

1 27. (new) A hearing air operating by the method
2 according to claim 15.

1 28. (new) A method for the elimination of spurious signal
2 components in an input signal, said method comprising the
3 steps of:

- 4 - the characterization, in a signal analysis phase , of
5 signal components of the spurious signal components
6 and of an information signal contained in the input
7 signal , and
- 8 - the determination or generation, in a signal processing
9 phase, of the information signal or an estimated
10 information signal on the basis of the
11 characterization obtained in the signal analysis
12 phase , wherein
13 said characterization of the signal components is
14 performed under utilization of at least auditory-
15 based features determined in the signal analysis
16 phase to separate speech signals from non-speech
17 signals in the signal processing phase.

1 29. (new) An application of the method according to
2 claim 28 for operating a hearing aid.

1 30. (new) A hearing air operating by the method
2 according to claim 28.